

## **REMARKS**

Reconsideration of the application as amended is respectfully requested.

### **Introduction**

Claims 1-22 were presented for examination. Claims 1-8 and 22 are now in the application. Claims 1-6, 8, and 22 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6, 004, 503 to Neil. Claim 3 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6, 004, 503 to Neil in view of U.S. Patent No. 4, 799, 601 to Shimai et al. Claim 7 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6, 004, 503 to Neil in view of U.S. Patent No. 6, 215, 254 to Honda et al.

Claims 1 has been amended. Claim 9 has been cancelled.

### **Election**

In response to the restriction requirement of December 16, 2002, the applicant elects group I, claims 1-9 and 22. Claims 10-21 are now cancelled.

### **Amendments to the Specification**

Minor corrections have been made to the specification. Amendments to the specification do not represent any new matter.

### **Objections to the Drawings**

The drawings were objected to as failing to depict an illustration of the arc chamber having an ellipsoid shape. Applicant respectfully traverses. Section 1.81(a) requires the applicant “. . . to furnish a drawing of his or her invention where necessary for the understanding of the subject matter sought to be patented . . .” Applicant submits that the illustration of the arc chamber having an ellipsoid shape is not necessary to the understanding of the invention. Moreover, Figure 1 depicts an arc chamber with a generally spherical shape satisfying the requirements of section 1.83(a) to show an arc chamber. However, an ellipsoid has known properties and shape. Accordingly, Applicant submits that figure 1 together with the well known shape of the ellipsoid provide a complete understanding to the skilled artisan of an arc chamber having generally an ellipsoid shape. In summary, specific illustration of a

known geometric shape is not necessary to understand the subject matter sought to be patented.

### **The Art Rejections**

Claim 1 has been amended to include the limitation of claim 9. Claim 1 calls for the ceramic article having the main body and opposed end members to be a monolithic body. Neil discloses a discharge chamber for a lamp made by injection molding. It comprises a main body and opposed end members, the ceramic article has the main body and only one of the end members as a monolithic body. Thus, Neil does not teach or suggest the whole discharge chamber to be a monolithic body. In contrast, claim 1 requires the main body and both opposed legs to form a monolithic body.

Shimai discloses a ceramic monolithic tube produced by drain casting (Col. 11, line 28). Shimai teaches that a slip casting is desirable for producing varieties in the shapes of translucent alumina ceramic (Col. 1, lines 38-39) because it is desirable that a tube has smaller diameters at the ends to be sealed (Col. 1, lines 24-25) and it is difficult to achieve using extrusion molding (Col. 1, lines 26-28). Thus, Shimai regards the likelihood of producing a monolithic ceramic chamber by the use of extrusion molding as infeasible. In fact, Shimai teaches away from the Applicant's concepts. Accordingly, it is illogical to conclude that the skilled artisan would rely on the Shimai disclosure of slip casting as a suggestion to modify the Neil teaching of a two-part arc chamber. In short, the Examiner is asked to explain how Neil would achieve a monolithic body in view of Shimai. Without that ability, the alleged obvious combination is without support and finds its motivation solely in the hindsight of the present disclosure.

Therefore, claim 1 distinguishes patentably and unobviously over Neil and Shimai taken singularly or in combination.

As claims 2-8, and 22 depend from and further define claim 1, it is submitted that claims 2-8 and 22 also distinguish patentably and unobviously over Neil and Shimai.

Applicant has reviewed additional art cited but not applied. As it is felt that the applied art is more relevant to the application, Applicant will not burden the record with a further discussion of this art.

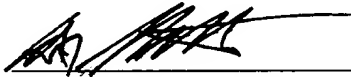
**CONCLUSION**

Applicant respectfully submits that the rejections set forth by the Examiner in the Office Action of December 16, 2002, have been overcome. Accordingly, Applicant respectfully submits that claims 1-8 and 22 are now in condition for allowance. Withdrawal of the rejections and early notification of allowability is earnestly solicited. Should any issues remain, the Examiner is encouraged to contact the undersigned to resolve any such issues.

Respectfully submitted,

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DATE: March 17, 2003

  
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Attachment: Version with Markings to Show Changes Made

**CERTIFICATE OF MAILING**

I hereby certify that this Amendment A and Election is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner of Patents and Trademarks, Washington, D.C. 20231, on March 17, 2003.

By   
\_\_\_\_\_  
Scott A. McCollister

**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

**In the Specification:**

Please amend the pending paragraph on page 7, lines 3-15 as follows:

In the process of injection molding, the mixture of ceramic material and binder is heated to form a highly viscous mixture. The mixture is then injected into a suitably shaped mold and then subsequently cooled to form a molded part. Subsequent to injection molding, the binder is removed from the molded part, typically by thermal treatment, to form a debindered part. The thermal treatment may be conducted by heating the molded part in air or a controlled environment, e.g., a vacuum, nitrogen, rare gas, to a maximum temperature, and then holding the maximum temperature. For example, the temperature may be solely increased by about 2-3°C per hour from room temperature to a temperature of 160°C. Next, the temperature is increased by about 100°C per hour to a maximum temperature of 900-1100°C. [Finally, the temperature is held at 900-1100°C.] Finally, the temperature is held at 900-1100°C for about 1-5 hours. The part is subsequently cooled. After the thermal treatment step, the porosity is usually about 40-50%.

Please amend the pending paragraph on page 8, lines 5-13 as follows:

After injection molding, the resultant pre-sintered chamber 120 may be stored in a close fit recess of a storage unit 122 to support the relatively low strength body. Moreover, the pre-sintered chamber 120 is stored in unit 122 during a heating stage when the binder and the plug 114 are heated above their melting points and removed from the discharge chamber. A vacuum assist port 124 is provided to facilitate removal of the binder and plug materials. The resultant monolithic arc chamber is advantageously without joins. Beneficially, the internal plug sets the inner shape and volume of the part being molded.

**In the Claims:**

Please amend claim 1 as follows:

1. (Amended) A discharge chamber for a lamp, the discharge chamber comprising a ceramic article having a main body defining an arc chamber and generally opposed end members defining openings which accommodate an electrode or electrode lead through, said ceramic article having the main body and [at least one the] opposed end members comprising a monolithic body.

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